

## Density Questions

Name\_\_\_\_\_Date\_\_\_\_\_Period\_\_\_\_\_

1. Some students have determined the density of a substance to be  $3.1 \text{ g/cm}^3$ . Based on what you've learned, is the substance more likely to be a solid, a liquid, or a gas ?

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2. A solid cylinder of plastic has a density of  $1.6 \text{ g/cm}^3$ . It is then cut exactly in half. What is the density of each of the pieces now and explain the reason for your answer ?

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3. Calculate the density for a rectangular block using the following measurements. Length: 2.70 cm, Width: 1.10 cm, Height: 9.09 cm, Mass: 72.17 g. Round your answer for density to 2 decimal places. Include the correct unit for density. Show your work.

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4. A student has measured the mass of a rock as 42.00 g. To determine the volume, the student places the rock into 21.0 ml of water. The rock causes the level of water to rise by 6 ml. What is the density of the rock sample ?

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5. Liquid A has a density of  $.90 \text{ g/cm}^3$ , liquid B has a density of  $1.15 \text{ g/cm}^3$ , and liquid C has a density of  $.65 \text{ g/cm}^3$ . They are poured into a graduated cylinder and allowed to sit overnight. Assuming that the liquids do not mix into one another, which liquid will be on the bottom, in the middle, and at the top in the graduated cylinder ?

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6. Using the same three liquids as in question 5, they are placed into separate graduated cylinders. A hydrometer is then placed into the cylinders. Which liquid will the hydrometer sink furthest into ? Which liquid will the hydrometer float highest in ?

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